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ADDITIONAL NOTES ON THE ORCHIDS OF THE NEW HEBRIDES AND SANTA CRUZ ISLANDS

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In an earlier paper¹ on the orchids of the New Hebrides and Santa Cruz Islands, I included all of the species represented in S. F. Kajewski's collections with the exception of several which were too fragmentary for critical study. Since my paper was published additional material has been found and I am now able to complete the record of Kajewski's 1928 and 1929 series. During my studies I have examined a rich collection of specimens containing species that have not yet been reported to be natives of the New Hebrides or Santa Cruz group. In the following paper I have included these, and to make the record more serviceable I have included also a number of species which although already reported from the New Hebrides, are now represented by specimens recently collected or by material referable to them. Unfortunately many of the specimens found by Dr. Morrison on Aneityum lack flowers and are indeterminable. I have only included those species which are quite clear, and in a few cases, when a plant represented a genus new to the region, I have included it, although for want of flowers the specific name could not be arrived at.

For the opportunity to examine the collections made on Malekula, Efate, Eromanga, Aneityum and the Banks Islands by Dr. Morrison and L. Cheeseman, I am indebted to Sir Arthur W. Hill, Director of the Royal Botanic Gardens, Kew.

Habenaria physoplectra Reichenbach f. in *Linnaea*, xli. 17 (1876).

Aneityum: Anelgauhat, *Dr. Morrison*, s. n., June 15, 1896; hills between Ithumu and Anelgauhat, *Dr. Morrison*, s. n., July 6, 1896. **Efate**: Undine Bay, hills, *Dr. Morrison*, s. n., August 27, 1896.

¹Journal of the Arnold Arboretum, xiii. 127-141 (1932).

The specimens referred to this species are too old to be serviceable for purposes of accurate identification, but vegetatively they bear a close resemblance to Reichenbach's type specimen (*MacGillivray* no. 27) and the withered remains of the flowers on the plant collected between Ithumu and Anelgauhat have the scrotiform spur that is one of the chief characters of *H. physoplectra*. MacGillivray's specimens were collected on Aneityum. Fritz Kraenzlin refers *Habenaria novobudarium* F. v. Mueller to the synonymy of this species. (Orch. Gen. & Sp. 905).

Habenaria ponerostachys Reichenbach f. in Bonpl. III. 213 (1855).

Aneityum: Hill north of Anelgauhat, *Dr. Morrison*, s. n., June 1896.—Also Philippine Islands.

In habit and floral structure the specimen from Aneityum resembles very closely the type and specimens from Leyte and Mindanao. The broad petals, aristate lateral sepals and the lobes of the labellum are similar to corresponding structures in the Philippine plants. The extension of range is interesting, because *H. ponerostachys* is not common in the Philippine Islands and has not been reported heretofore from any other part of the world.

Habenaria stenodon Reichenbach f. in Linnaea, XLI. 17 (1876).

Banks Islands: Vanua Lava, *L. Cheeseman*, s. n., November 1929.—Already found on Aneityum by MacGillivray.

Corybas mirabilis Schlechter in Fedde, Rep. Spec. Nov. XIX. 22 (1923).

Corysanthes mirabilis Schlechter in Bull. Herb. Boiss. ser. 2, VI. 296 (1906).

Aneityum: *Dr. Morrison*, s. n., June 26, 1896 (dark glossy purple, variegated with whitish lines or meshes on lip and upper sepal).

The type was collected by Dr. Morrison on the summit of the peak between Anumy and Ithug, c. 2300 feet altitude in June 1896. The specimens in the Kew Herbarium are accompanied by a note which reads: "On peak crossed June 26, 1896."

Nervilia sp.

Aneityum: Hill north of Anelgauhat, *Dr. Morrison*, s. n., June 15, 1896.

A single leaf constitutes the specimen examined. This leaf resembles very closely the leaves of *Nervilia MacKinnonii* (Duthie) Schlechter.

Epipogon roseum (D. Don) Lindley in Jour. Linn. Soc. I. 177 (1857).

M a l e k u l a : South West Bay, in bush at sea level, *L. Cheeseman*, s. n., January 1930.—Also Java, Ceylon, New Guinea, tropical India and Australia.

Goodyera triandra Schlechter in Bull. Herb. Boiss. ser. 2, vi. 298 (1906).

E f a t e : Undine Bay, *Dr. Morrison*, s. n., August 20, 1896; Mount Macdonald, *Dr. Morrison*, s. n., August 18, 1896.

The specimens in the Kew Herbarium are similar to the type in being triandrous.

Platylepis Morrisonii Schlechter in Fedde, Rep. Spec. Nov. ix. 161 (1911).

A n e i t y u m : Hills between Anelgauhat and Anumy Valley, *Dr. Morrison*, s. n., June 25, 1896; hills between Ithumu and Anelgauhat, *Dr. Morrison*, s. n., July 6, 1896.

Cystopus aneytyumensis Schlechter in Fedde, Rep. Spec. Nov. ix. 282 (1911).

A n e i t y u m : Near summit of peak south of Ithumu, *Dr. Morrison*, s. n., June 30, 1896; ascent of peak south of Ithumu, 1000-1835 feet altitude, *Dr. Morrison*, s. n., June 30, 1896.

Cystopus fimbriatus J. J. Smith in Bull. Dép. Agric. Indes Néerl. no. 10, p. 3 (1907).

A n e i t y u m : Hills between Ithumu and Anelgauhat, *Dr. Morrison*, s. n., July 6, 1896.—Also Dutch New Guinea.

There are minor differences between the specimens from Aneityum and the type of *C. fimbriatus*, but they are hardly sufficient to justify specific separation.

Zeuxine Erimae Schlechter in Schumann & Lauterbach, Nachtr. Fl. Deutsch. Schutzgeb. 90 (1905).

B a n k s I s l a n d s : Vanua Lava, Avuas, in brush, at 250 feet altitude, *L. Cheeseman*, s. n., October 7, 1929 (roots scarcely lodged in soil).—Also Kaiser-Wilhelmsland.

Anoectochilus sp.

A n e i t y u m : Hills between Ithumu and Anelgauhat, *Dr. Morrison*, s. n., July 6, 1896 (leaves dark green, velvety dull or with sheen according to incidence of light, veined with silvery whitish lines, under surface purplish red veined with greenish).

The only specimens collected are sterile. The leaves resemble those of *Anoectochilus Roxburghii* Lindl.

Vrydagzynea Cheesemanii Ames, sp. nov.

In habitu *V. albidæ* Bl. similitudinem gerit. Caules graciles, foliosi.

Folia plus minusve congesta, petiolata, ovato-lanceolata, acuminata, acuta, membranacea. Racemus multiflorus. Bracteae racemi elongatae, lineari-lanceolatae, scariosae, margine glandulosae. Sepala lateralalia irregulariter ovato-lanceolata, obtusa, uninervia, apice carinata. Sepalum dorsale anguste ellipticum, obtusum, apice incrassatum. Petala anguste elliptica, obtusa, uninervia, apice incrassata. Labellum in calcar conicum productum; lamina labelli suborbicularis. Columna generis.

Terrestrial herb 17.5-21.5 cm. tall, in facies very similar to *V. albida* Bl. Stems slender bearing several foliaceous bracts near the base, leafy above. Leaves crowded, including the petiole up to 10 cm. long, 1.5-3 cm. wide; lamina ovate-lanceolate, acuminate, acute, papyraceous. Peduncle slender, including the raceme up to 12 cm. long. Raceme 4-5.4 cm. long, about 1 cm. in diameter near the base, tapering gradually upward, densely many-flowered. Bracts of the raceme up to 1 cm. long, linear-lanceolate, glandular-pubescent on the margin, mid-nerve prominent. Ovary about 7 mm. long, smooth. Lateral sepals 3.5 mm. long, 2 mm. wide, asymmetrically ovate-lanceolate, obtuse, conspicuously thickened at the carinate apex, 1-nerved. Dorsal sepal 3.5 mm. long, narrowly elliptical, obtuse, with the blunt apex considerably thickened, 1-nerved. Petals adherent to the dorsal sepal, 3.5 mm. long, 1.5 mm. wide, narrowly elliptical, obtuse, thickened at the tip, 1-nerved. Labellum calcarate, 6 mm. long from the tip of the spur to the tip of the expanded lamina; lamina 1.5 mm. long to the opening of the spur, 2 mm. wide, suborbicular, fleshy, distinctly thickened or bicallose at the base in front of the opening to the spur, somewhat thickened at the tip. Spur about 4.5 mm. long, about 1.5 mm. in diameter, tapering gradually to the obtuse or subacute tip; within on the posterior wall hang two pedicellate verruciform appendages, each appendage and its pedicel 1.5 mm. long. Column 2 mm. long.

Malekula: South West Bay, at sea level, *L. Cheeseman*, s. n. (type in Herb. Kew; duplicate type in Herb. Ames, no. 37831), January 1930.

From *Vrydagzynea elongata* Bl., this species differs conspicuously in having a conical spur with an acute or nearly acute apex. The smaller flowers, dissimilar lip and larger leaves seem to differentiate it from *V. neo-hibernica* Schltr.

Malaxis lunata (Schltr.) Ames in Jour. Arnold Arb. XIII. 129 (1932).

Microstylis lunata Schlechter in Fedde, Rep. Spec. Nov. IX. 162 (1911).

Aneityum: Hills between Ithumu and Anelgauhat, *Dr. Morrison*, s. n., July 6, 1896; near Anelgauhat, *Dr. Morrison*, s. n., June 1896; ascent of peak south of Ithumu, 1000-1835 feet altitude, *Dr. Morrison*, s. n., June 30, 1896.

Oberonia sp.

Aneityum: Gulley near Anelgauhat, *Dr. Morrison*, s. n., June 13, 1896.

This material collected by Dr. Morrison is in fruit and indeterminable. In general appearance the plant resembles *O. Betchei* Schltr. It also suggests *O. ensiformis* Lindl.

Oberonia sp.

Aneityum: Anelgauhat to Anumy, *Dr. Morrison*, s. n., June 25, 1896.

Sterile specimens that are vegetatively similar to *O. aporophylla* Reichb. f.

Oberonia glandulosa Lindley, Fol. Orch. Oberonia, 6 (1859).

Efate: Undine Bay, *Dr. Morrison*, s. n., August 18, 1896.

Aneityum: Hills between Ithumu and Anelgauhat, *Dr. Morrison*, s. n., July 6, 1896 (fruiting specimen).—Also Tahiti.

Liparis elegans Lindley in Wall. Cat. no. 1943 (1828), nomen; Lindley, Gen. & Sp. Orch. 30 (1830).

Aneityum: Peak between Anumy and Ithug, *Dr. Morrison*, s. n., June 26, 1896.—Also Malay Peninsula and Borneo.

Chrysoglossum aneityumense Ames, sp. nov.

Rhizoma gracile, verisimiliter statu juvenili vaginis laxis vestitum. Folium chartaceum, anguste ellipticum, subacutum, basi rotundatum in petiolum sulcatum attenuatum. Scapus erectus, pauciflorus. Sepala lateralibus oblongo-lanceolata, acuminata, cum labello saccum scrotiformem formantia. Sepalum dorsale simile. Petala lanceolata, acuta. Labellum conspicue trilobatum; lobi laterales anguste semielliptici, valde obtusi; lobus medius semiorbicularis; discus inaequaliter tricarinatus. Columna crassa, apice alata, basi in pedem producta.

Rhizome slender, partly concealed by the fibrous remains of sheathing bracts, 2-4 mm. thick in dried specimens. Leaf including the petiole 7.5-9.5 cm. long, about 3.5 cm. wide, chartaceous when dry, narrowly elliptical, subacute, rounded at the base; petiole about 1.5 cm. long, terminal on a slender abbreviated pseudobulbous stem. Scape, the continuation of a leafless stem arising from near the base of the leaf, including the few-flowered raceme about 1 dm. long. Raceme 4-6 cm. long, loosely five- to eight-flowered, flowers about 1 cm. apart. Bracts

of the inflorescence about 1 cm. long, lanceolate, acute, membranaceous. Pedicels slender, including the ovary 1.5 cm. long, sharply curved. Lateral sepals 1 cm. long, 4 mm. wide, oblong-lanceolate, acuminate, acute, forming with the labellum a conspicuous scrotiform sac, spreading. Sac 5 mm. long, about 3 mm. in diameter. Dorsal sepal about 1 cm. long, 3.5 mm. wide, similar to the laterals. Petals 9 mm. long, about 3 mm. wide, lanceolate, acute, spreading. Labellum connected with the sac by a narrow claw, including the sac 1.4 cm. long, conspicuously 3-lobed; lateral lobes 4 mm. long, 2 mm. wide, narrowly semi-elliptic, rounded at the apex, separated from the middle lobe by an abbreviated isthmus; middle lobe semi-orbicular, 6 mm. long, 8 mm. wide; disc 3-carinate with the outer carinae auriculate near the base of the lateral lobes and extending nearly to the center of the middle lobe where they become conspicuously elevated into semi-elliptical plates, the central carina is shorter than the lateral ones and hardly expanded at the tip. Column fleshy, free portion 4.5 mm. long, produced at base into a conspicuous foot, at the summit becoming conspicuously winged round the androclinium.

A n e i t y u m : Anelgauhat, below 800 feet altitude, *Dr. R. Morrison*, s. n., June 1896 (type in Herb. Kew; duplicate type in Herb. Ames, no. 39055).

The closest ally of this species appears to be *Chrysoglossum papuanum* (Schltr.) J. J. Smith which differs from the New Hebridean plant in having the lateral lobes of the labellum acute and in having slightly different carinae on the disc. Vegetatively these species are very similar with flowers that are about equal in size.

Dendrobium calcaratum A. Richard, Sert. Astrol. 18. t. 7 (1834).

A n e i t y u m : Hills between Ithumu and Anelgauhat, *Dr. Morrison*, s. n., July 6, 1896; between Anelgauhat and Anumy, *Dr. Morrison*, s. n., June 25, 1896; ascent of peak south of Ithumu, at 1000-1835 feet altitude, *Dr. Morrison*, s. n., June 30, 1896.—Already found on Vanikoro in the Santa Cruz Islands.

Dendrobium gnomus Ames, sp. nov.

Caules dense caespitosi, graciles, perbreves. Folia disticha, lineari-oblonga, apice inaequaliter bidentata. Racemi pauciflori, laterales. Sepala lateralia mentum obtusum formantia, triangularia, acuta, valde membranacea. Sepalum dorsale lanceolatum, acutum. Petala lanceolata. Labellum elongatum, simplex, infra medium constrictum, bicallosum, supra medium in laminam lanceolatam acutam expansum. Columna generis.

Roots finely fibrous, white, smooth. Stems up to 3.5 cm. long, about

2 mm. in diameter when dry, yellow, deeply furrowed longitudinally, four- to eight-jointed, with the internodes about 5 mm. long and nearly equal in diameter. Leaves alternate, 1.7-2.1 cm. long, 2.5 mm. wide, linear-oblong, tapering gradually toward each end, unequally bi-dentate at the blunt apex. Leaf-sheaths somewhat complanate, heavily nerved, remaining as loose fibres at the nodes of the stem after the fall of the leaves. Inflorescence breaking forth at the nodes of the naked stems; rachis about 6 mm. long. Bracts of the inflorescence scarious, those subtending the flowers lanceolate, acute. Flowers several, bright purple, about 11 mm. long from the tip of the dorsal sepal to the tip of the mentum formed by the lateral sepals, membranaceous. Lateral sepals slightly spreading, triangular, acute, including the mentum 1 cm. long, about 3 mm. wide near the middle; mentum 4 mm. long, about 2.5 mm. in diameter, closed in front, protuberant anteriorly at the tip. Dorsal sepal lanceolate, acute, 5.5 mm. long, 2 mm. wide. Petals lanceolate, acute, erect, diverging slightly from the dorsal sepal, 5 mm. long, about 1 mm. wide. Labellum 8 mm. long, expanded above the middle into an elliptic-lanceolate lamina which is 2 mm. wide, basal portion narrowly oblong, slightly constricted near the base of the expanded upper portion with a rounded thickening or callus on each side of the constriction. Column produced into an elongated foot.

Santa Cruz Group: Vanikoro, in rain forest at 800 meters altitude, growing in moss, *S. F. Kajewski*, no. 605 (type in Herb. Ames, no. 38083), November 11, 1928 (flowers bright purple, very pretty; (only one specimen seen).

One of the smallest representatives of the *Pedilonum* section of *Dendrobium*, about equal in size to *D. cyanocentrum* Schltr.

Dendrobium Mohlianum Reichenbach f. in Bot. Zeit. xx. 214 (1862).

Dendrobium neo-ebudanum Schlechter in Bull. Herb. Boiss. ser. 2, vi. 456 (1906).

Anenityum: Between Anumy and Ithug, at 2300 feet altitude, *Dr. Morrison*, s. n., June 26, 1896; hills near Anumy, *Dr. Morrison*, s. n., June 6, 1896. **Eromanga:** Peak south of Dillon's Bay, *Dr. Morrison*, s. n., August 5, 1896; Traitor's Head, summit of old crater growing on rotten wood, 2400 feet altitude, *L. Cheeseman*, no. 72, August 21, 1930 (flower pale vermillion, not deep).—Also Fiji Islands and Samoa.

Dendrobium Mooreanum Lindley in Jour. Hort. Soc. vi. 272 in footnote (1851).

Dendrobium Fairfaxii Rolfe in Gard. Chron. ser. 3, v. 798 (1889).

Anenityum: Peak south of Ithumu, *Dr. Morrison*, s. n., June

30, 1896 (flower generally pure white, labellum greenish, veined with purple); Anelgauhat to Anumy, *Dr. Morrison*, s. n., June 25, 1896; peak between Anumy and Ithug, *Dr. Morrison*, s. n., June 26, 1896. *E f a t e* : Undine Bay, *Dr. Morrison*, s. n., August 27, 1896. *E r o - m a n g a* : Hill south of Dillon's Bay, *Dr. Morrison*, s. n., August 5, 1896.

Dendrobium occultum Ames, sp. nov.

Caules lageniformes vel cylindranei, prope apicem diphylli. Folia oblongo-lanceolata, apiculata, in sicco chartacea. Flores singuli. Sepala lateralibus mentum elongatum formantia, oblonga, prope apicem attenuata, apiculata. Sepalum dorsale elliptico-oblongum, apiculatum. Petala oblanceolata, apice rotundata, breviter apiculata. Labellum oblanceolatum, apice apiculatum, prope basim lamella transversa ornatum; discus leviter tricarinatus. Columna generis, clinandrium denticulato.

Stems 1.5-2.5 cm. long, lageniform or cylindrical, bearing at the summit two obliquely ascending leaves, when young concealed by tubular sheaths which persist as stiff erect fibres at the nodes on the mature stems. Leaves 8-13 cm. long, up to 1.5 cm. wide, oblong-lanceolate, apiculate, papyraceous when dry. Flowers 2.8 cm. long, borne singly at the nodes of the leafless stems. Pedicel with the ovary 8 mm. long, ascending. Lateral sepals including the mentum 2.8 cm. long, about 5 mm. wide, oblong, gradually tapering from above the middle to an acute apiculate tip, the nerves somewhat raised on the outer surface in dried specimens, the central one subcarinate near the apex; mentum 8.5 mm. long, slender, 4 mm. in diameter, tapering gradually to the tip where it is about 1 mm. in diameter, closed in front for about one-half of its length. Dorsal sepal 2 cm. long, 5 mm. wide, elliptic-oblong, tapering to an apiculate tip, narrowed toward the base, mid-nerve lightly carinate toward the distal end. Petals about 1.9 cm. long, 7 mm. wide across the upper third, about 2 mm. wide near the base, oblanceolate, rounded at the apex, shortly apiculate, 5-nerved. Labellum about 2 cm. long, about one-third shorter than the lateral sepals, oblanceolate, apiculate, about 6 mm. wide above the middle, the three central nerves more or less prominent, the middle one subcarinate toward the base of the disc; 6 mm. from the base there is a fleshy transverse callus. Column 9 mm. long; clinandrium denticulate.

S a n t a C r u z G r o u p : Vanikoro, in the moss on rain-forest trees, at 800 meters altitude, *S. F. Kajewski*, no. 604 (type in Herb. Ames, no. 38084), November 11, 1928 (flowers, some cream with yellow-edged labellum, others are purple-pink, but all have the yellow-edged labellum).

Apparently a close ally of *D. asperifolium* J. J. Smith, but the leaves and flowers are not verrucose. In habit similar to *D. pentapterum* Schltr. and *D. Cuthbertsonii* F. v. Muell. The specific name alludes to the tendency of the flowers to be hidden by the moss in which the plants were growing.

Dendrobium purpureum Roxburgh, Fl. Ind. III. 484 (1832).

Dendrobium Morrisonii Schlechter in Bull. Herb. Boiss. ser. 2, VI. 456 (1906).

A n e i t y u m : Hill northeast of Anelgauhat, *Dr. Morrison*, s. n., June 18, 1896; near Anumy, *Dr. Morrison*, s. n., June 1896; hills between Ithumu and Anelgauhat, *Dr. Morrison*, s. n., July 6, 1896 (flowers white).—Also Moluccas.

Dendrobium Quaifei Rolfe, *ined.*

Dendrobium Quaifei Guillaumin in Bull. Soc. Bot. France, LXIV. 707 (1927), *sphalm.*

N e w H e b r i d e s : Santo Peak, 4500 feet altitude, *W. T. Quaife*, s. n., May 1903.

The narrowly oblanceolate petals and the dissimilar stelidia of the column separate this species from *D. pseudo-Tokai* Kraenzl. Apparently it is closely allied to *D. montis-yulei* Kraenzl., but it differs sufficiently in the flowers to be regarded as distinct. In habit it is very similar to *D. Mooreanum* Lindl., but from that species it differs conspicuously in having much smaller flowers and a different labellum.

The type consists of a single plant: Caules plus minusve 28 cm. longi, verisimiliter caespitosi, usque ad apicem dilatati, 6 mm. in crassitudine, valde sulcati, flavidi, ad apicem triphylli. Folia plus minusve 9 cm. longa, usque ad 3.3 cm. lata, valde coriacea, apice bidentata. Inflorescentia 20 cm. longa; pedunculus infra racemum plus minusve 11 cm. longus, paucibracteatus. Racemus plus minusve sex-florus, 9 cm. longus. Bractee racemi vix 5 mm. longae, lanceolatae, concavusculae, acutae. Pedicelli ascendentes, graciles, plus minusve 3 cm. longi. Sepala lateralalia 2 cm. longa, 5 mm. lata, triangulari-lanceolata, acuminata, acuta, nervo medio prominenti. Mentum 8 mm. longum, curvatum, obtusum. Sepalum dorsale simile. Petala 2.8 cm. longa, 7 mm. lata, membranacea, anguste oblanceolata, quinquenervia, obtusa. Labellum plus minusve 1.9 cm. longum, prope medium 1 cm. latum, trilobatum, lobis lateralibus rotundatis, lobo medio 9 mm. longo, 5 mm. lato, triangulari-lanceolato, acuto. Discus supra medium glaber, infra medium callo bisulcato ornatus. Columna generis, stelidiis recurvatis, acutis, terminalibus instructa.

Dendrobium ruginosum Ames, sp. nov.

Caules caespitosi, inferne graciles, prope apicem in pseudobulbum

longitudinaliter ruginosum flavidum producti. Folia ad apicem pseudobulbi congesta, coriacea, elliptico-oblonga vel lanceolata, acuta. Inflorescentia plus minusve quinqueflora. Sepala lateralia mentum obtusum formantia, oblonga, usque ad apicem attenuata, acuta, extus carinata. Sepalum dorsale lanceolatum, apiculatum. Petala prope basim valde angustata, membranacea, supra basim suborbicularia, acuta. Labellum trilobatum. Discus glaber, callo elongato truncato ornatus. Columna generis.

Roots glabrous, whitish, coarsely fibrous. Stems caespitose, 25 cm. tall, seven-jointed; the uppermost internode conspicuously swollen and pseudobulbous, yellow, 7 cm. long, up to 1 cm. in diameter when dry, longitudinally sulcate, tapering to a slender base; the remaining internodes slender, 3.7-4.4 cm. long, 2-3 mm. in diameter, smooth, brownish or yellowish, with the fibrous remains of tubular sheaths persisting at the nodes. Leaves terminal on the pseudobulb, coriaceous, three in number, approximate, elliptic-oblong to oblong-lanceolate, tapering gradually toward the tip, 7.5-8.5 cm. long, 1.7-2 cm. wide, obliquely ascending. Inflorescence longer than the leaves, up to 11 cm. long, rigid, slender, about five-flowered, arising from the axil of a leaf or breaking out from the summit of the pseudobulb below the lowermost leaf. Bracts of the inflorescence about 4 mm. long, lanceolate, much shorter than the pedicels, concave or cymbiform, acute. Pedicels slender, with the verruculose ovary 1.7 cm. long, curving sharply toward the upper end. Flowers rather showy with the sepals and petals white and the labellum pale green with purple stripes. Lateral sepals membranaceous, forming a rounded mentum, including the mentum 2 cm. long, about 5 mm. wide across the middle, oblong, tapering from about the middle toward the acute thickened apex, heavily carinate on the exterior surface along the median nerve, the carina extending beyond the apex of the sepal in a sharp apicule. Mentum 5 mm. long. Dorsal sepal 1.7 cm. long, 7 mm. wide across the middle, lanceolate, apiculate, 5-nerved, lightly carinate on the outer surface. Petals membranaceous, 2.4 cm. long, 1.3-1.5 cm. wide, cuneate at the base, dilated upward into a suborbicular or subrhombic lamina, lightly retuse at the apex with an apicule in the sinus or simply acute, 5-nerved at the base. Labellum about 2 cm. long, 3-lobed; lateral lobes rounded, 1.2 cm. long from the rounded tips to the point of insertion at the base of the labellum, about 5 mm. wide; middle lobe about 7 mm. long, 7 mm. wide, apiculate. Disc smooth, with a heavy truncate median keel on the inner surface which extends to the middle of the labellum. Column about 9 mm. long.

Santa Cruz Group: Vanikoro, in rain-forest at 800

meters altitude, *S. F. Kajewski*, no. 606 (type in Herb. Ames, no. 39056), November 11, 1928 (orchid growing on rain-forest trees; petals white, labellum pale yellow with purple stripes; only two specimens seen).

This species is allied to *D. atrovioleaceum* Rolfe, but varies from it in having smaller, differently colored flowers and differently formed petals. The three-lobed labellum serves to distinguish it from *D. Mooreanum* Lindl. and the very dissimilar petals differentiate it from *D. Quaipei* Rolfe, its closest ally in the New Hebrides and Santa Cruz Islands.

Glomera Macdonaldii (Schltr.) Ames, comb. nov.

Glossorrhyncha Macdonaldii Schlechter in Fedde, Rep. Spec. Nov. III. 19 (1906).

E r o m a n g a : Traitor's Head, summit of old crater on mossy trunk of *Metrosideros*, 2400 feet altitude, *L. Cheeseman*, no. 70, August 21, 1930 (straggling semi-erect branches, flower white).—Already reported from Aneityum.

The type was collected by Macdonald on Aneityum. In the Kew Herbarium there is a sterile specimen collected by Dr. Morrison on Aneityum, between Anelgauhat and Anumy on June 25, 1896. Vegetatively this specimen is very similar to the one from Eromanga collected by Cheeseman.

Phajus amboinensis Blume in Mus. Bot. Lugd.-Bat. II. 180 (1856).

A n e i t y u m : *Dr. Morrison*, s. n., June 22, 1896.—Also Java and Amboina.

This is a small flowered form of the species.

Eulophia macrostachya Lindley, Gen. & Sp. Orch. 183 (1833).

A n e i t y u m : Anelgauhat, on ground under trees, *Dr. Morrison*, s. n., June 9, 1896. **E r o m a n g a** : Terrestrial, *Dr. Morrison*, s. n., July 18, 1896.—Also Ceylon, Java, Sumatra, Dutch New Guinea and Borneo.

The specimens on which my determination is based have somewhat smaller flowers than usual. Vegetatively the specimens cited above approach *E. novo-ebudae* Kraenzlin in Guillaumin in Bull. Soc. Bot. France, sér. 5, v. 301 (1929), but the labellum is very different if Kraenzlin's description of admittedly poor material is dependable.

Phreatia calcarata J. J. Smith in Bull. Dép. Agric. Indes. Néerl. no. 19, p. 31 (1908).

B a n k s I s l a n d s : Vanua Lava, rain-forest, 3120 feet altitude, *L. Cheeseman*, s. n., October 29, 1929 (flowers white, growing on rotten bole).—Also Papua.

Thrixspermum sp.

E r o m a n g a : Dillon's Bay, *Dr. Morrison*, s. n., August 5, 1896.

There are three specimens, all without flowers, although one is said to have had pale yellow flowers. Vegetatively this species resembles *Thrixspermum Vanoverberghii* Ames, a native of the Philippine Islands.

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